

Title (en)

Cleaning of olive oil waste water with mechanical, chemical and biological methods

Title (de)

Reinigung von Olivenölabwässern mittels mechanischen, chemischen und biologischen Verfahren

Title (fr)

Nettoyage de margines d'huiles d'olives à l'aide de procédés mécanique, chimique et biologique

Publication

EP 2033940 A2 20090311 (DE)

Application

EP 08105026 A 20080812

Priority

AT 14032007 A 20070907

Abstract (en)

The procedure for cleaning of wastewater from olive oil production, comprises allowing the wastewater to deposition for two or three months and subjecting the wastewater to flocculation through calcium hydroxide, subsequently to ultra or nano-filtration and subsequently to reverse osmosis. The cleaned wastewater is subjected to ultraviolet-hydrogen peroxide oxidation. The wastewater is treated after the ultra or nano-filtration or after the reverse osmosis to dismantle the low-molecular substance that passes to reverse osmosis to remove ethanol. The procedure for cleaning of wastewater from olive oil production, comprises allowing the wastewater to deposition for two or three months and subjecting the wastewater to flocculation through calcium hydroxide, subsequently to ultra or nano-filtration and subsequently to reverse osmosis. The cleaned wastewater is subjected to ultraviolet-hydrogen peroxide oxidation. The wastewater is treated after the ultra or nano-filtration or after the reverse osmosis to dismantle the low-molecular substance that passes to reverse osmosis to remove ethanol. The retentate of the ultra or nano-filtration is subjected to high-pressure reverse osmosis and the retentate of the high-pressure reverse osmosis is thickened in an evaporation basin.

Abstract (de)

Man lässt das Abwasser in einem ersten Schritt zumindest zwei bis drei Monate lang absetzen. Danach unterwirft man es einer Flockung, vorzugsweise durch $\text{Ca}(\text{OH})_2$, anschließend einer Ultra- oder Nanofiltration. Dann behandelt man das Abwasser vorzugsweise in einem Anaerob-Reaktor, um niedermolekulare Substanzen, die die folgende Umkehrosmose passieren können, abzubauen. Statt der Behandlung im Anaerob-Reaktor kann man das Abwasser nach der Umkehrosmose erhitzen, um z.B. Methanol oder Ethanol auszutreiben. Abschließend unterwirft man das gereinigte Abwasser einer Oxidation, vorzugsweise einer UV-Wasserstoffperoxid-Oxidation. Das Retentat der Ultra- oder Nanofiltration kann man einer Hochdruck-Umkehrosmose unterwerfen und das Retentat der Hochdruck-Umkehrosmose in einem Evaporationsbecken eindicken.

IPC 8 full level

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CPC (source: EP)

C02F 9/00 (2013.01); **C02F 1/14** (2013.01); **C02F 1/32** (2013.01); **C02F 1/441** (2013.01); **C02F 1/442** (2013.01); **C02F 1/444** (2013.01); **C02F 1/5236** (2013.01); **C02F 1/66** (2013.01); **C02F 1/722** (2013.01); **C02F 3/28** (2013.01); **C02F 2001/007** (2013.01); **C02F 2103/322** (2013.01); **Y02E 50/30** (2013.01); **Y02W 10/37** (2015.05)

Citation (applicant)

AT 501991 A1 20061215 - ADLER HERWIG DIPL ING [AT]

Cited by

EP2338500A1; CN112707568A; CN113683240A; ITBA20150013A1; CN109553229A; CN114180792A; CN109942150A; CN114772836A

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